

THE EFFECTS OF DROUGHT AND REALLOCATION ON WATER RESOURCES PLANNING FOR THE CHATTAHOOCHEE RIVER BASIN

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INTRODUCTION

This paper will consider the problems of inter-jurisdictional water resource management by relating Alabama's recent experiences with drought planning and its involvement in the Comprehensive Study of the Apalachicola-Chattahoochee-Flint (ACF) River Basin. In both cases, state-level participation in water management activities has been constrained by the existing institutions that address water management issues and the decision-making processes these institutions apply to specific problems. By considering the conflicting scales of participation in both planning examples, we may be better able to reconcile three components of decision making towards improved water management practice: water use, water management practice by alternative users at differing geographical scales, and jurisdictionally-based water policy.

The problems associated with poor policy coordination in water resource management also raise concern about how optimal management is depicted for planners. Although planning theory can be unrepresentative of how management occurs across the array of water resource decision-makers, theory can be a strong influence in the development of policies and in funding for specific projects. A premise necessary for this discussion is that water management is practiced within formal, procedural, institutionally organized settings (i.e. water permitting) and informally by water managers who may not be documented by these formal planning and resource management processes.

BACKGROUND

The practice of water management occurs through many institutional settings at various jurisdictional levels, as well as by water users at differing geographical scales. The task of evaluating and improving water management practice involves establishing water use and quality priorities and developing and implementing policies to achieve them. This process is complicated by the demands of assessing the interrelationships among competing water uses, water policies through governmental levels, locations and sources

of water supply, and coordination between water management units and other jurisdictional units. Planning is characterized by underdeveloped jurisdictional cooperation. For example, eight states have passed laws enabling state-level growth management planning that specifies how local, regional, and state governments are to interact within a state planning structure (Gale 1992). By 1986, 16 states had state-level water management policies, though five of these are states with state-level growth management planning (Gale 1992; Army Corps of Engineers 1986). In other words, those states that have implemented and funded water management programs are often states that also have well developed institutional support for a broad range of planning activities.

Among those states that have implemented state-level growth management, enforcement of interjurisdictional cooperation varies widely (Bollens 1992; Gale 1992; Innes 1992). Moreover, growth management planning does not necessarily include comprehensive water management, even though state-wide water management policies are often justified on the basis of supporting state and regional development objectives. Both Georgia and Florida have growth management planning processes that are separate from state-wide water resources planning. For instance, in Florida, water resources planning is divided among five water management districts that in combination cover the entire state. Not only are these water management districts relatively autonomous from one another, they do not coincide with regional planning districts associated with growth management (U.S. Army Corps of Engineers 1986).

The lack of interjurisdictional coordination in water resource management and in planning activities invites criticism from planning and resource management theorists and practitioners. Institutional fragmentation is also pervasive at the federal level of government. The Water Resources Council, which was initiated to foster interjurisdictional cooperation related to water management has been unfunded since 1981; and water management activities and information gathering are distributed among several federal agencies (Feldman 1992; Truax 1989). The lack of policy coordination is also problematic when specific planning issues arise, such as drought conditions, growth in water demand, or competition for water among different user groups. That

resource managers advocate comprehensive water resource planning, including decision-making structures for resolving specific issues (i.e. using benefit-cost analysis to assess projects and including drought and flood contingency decision-making structures in comprehensive plans) underscores the significance of conflict in planning processes (Bauman 1990; Riebsame 1987; U.S. Army Corps of Engineers 1991).

Conflict in planning and resource management can be better understood by considering the very different decision-making frameworks that participants in these processes bring to the resolution of specific issues (Masucci 1987). Objectives identified within the political process are implemented as policy through comprehensive plans and zones, legislative initiatives (such as the designation of a protected environment), and procedural rules of public sector institutions (such as the mandated use of particular technologies or analytical tools). Yet, planners rely on decision-making procedures that emphasize their objective, more comprehensive view, as well as their expertise and technical knowledge in addressing problems. Optimum outcomes are an implied goal of a correctly administered or coordinated process. Means devised to assess whether or not an outcome is optimum provide the planner with an objective basis for advocating a position, even though deciding on the parameters of these means is an implicitly political activity (Major and Lenton 1979). In the end, conflict among decision-making groups often prevents the selection and implementation of what the planner would advocate as the best alternative based on an objective and technical understanding of the problem being considered (Harris 1988; Moore 1988; Stiffler 1990).

Conflict is inevitable, as interests of specific groups, areas, or sectors diverge from existing planning and resource management policy and practice. Friedmann (1989) provides a framework for analyzing planning and resource management in terms of the interrelationships of decision-making groups. Building on the notion that different decision-making groups apply different planning frameworks when considering specific problems, Figure 1 illustrates how consensus about specific management alternatives can be formed. The model depicts that planners and nonplanners interact with each other in a shared dialog about the way in which future development, at either the aggregate or individual level, should occur. Participants are constrained in their view of problems by scale, spatial constructs, experiences, and the specific attributes of the problem under review. Decisions made are the result of perceived limitations and mandates based on how they identify with this process.

In practice, planning and resource management are far more complicated processes than Figure 1 suggests in depicting only two decision-making groups. Yet, the lack of understanding planning as inherently conflict driven is a more profound barrier to effective interjurisdictional

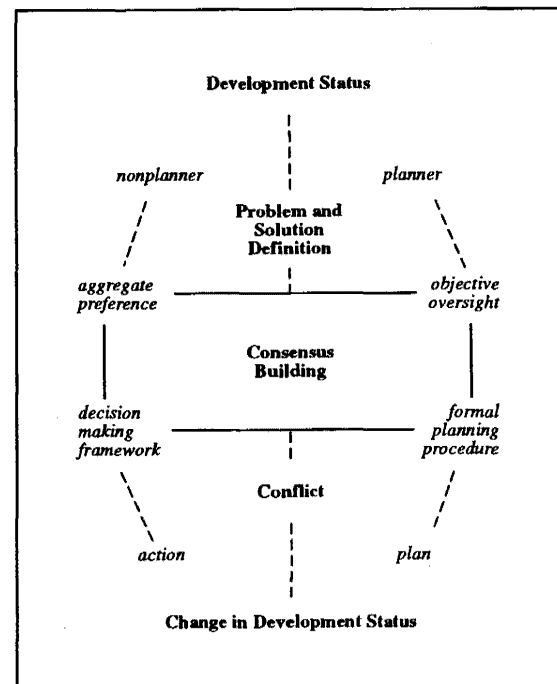


Figure 1. Role Impact Planning Model

coordination of policies and plans, since now participant decision making acquires regional, historical, and aggregate dimensions. In the case of Alabama, decision-making groups have no local basis, so that the apparent lack of conflict in implementing drought contingency strategies during the 1980s masked a lack of involvement by local constituencies. In the case of the dialog about comprehensive planning for the ACF River Basin, conflict occurs precisely because of the disparity between decision-making structures of the participating groups.

Drought planning in Alabama.

The Alabama Governor's Drought Task Force was established in 1988, in anticipation of a third consecutive severe drought year. The drought planning process implemented consisted of weekly monitoring of the state's water supply by regional divisions of federal agencies, such as the National Weather Service, United States Geological Survey, and Army Corps of Engineers, as well as by the Alabama Geological Survey and the Alabama Department of Environmental Management. Once the Governor's Drought Task Force, consisting of representatives of these agencies, documented shortfalls in precipitation, lowered reservoir levels, reduction in groundwater levels, and reduced commercial navigation traffic during the spring of 1988, the Governor requested that 67 counties in Alabama be declared agricultural Natural Disaster Areas. By April 1, 1988 farmers in these counties were eligible for low interest loans through

the Farmer's Home Administration Program of the United States Department of Agriculture. In addition, the Alabama National Guard, under the Alabama Emergency Management Agency, began hauling water to deficit areas in the state. At the local level, water restrictions were already in effect for twenty counties (Alabama Governor's Drought Task Force 1988).

The state's involvement in drought planning strongly relied on participation from water managers in federal agencies at the local level. Even the drought record was compiled using criteria related to projects and facilities administered by these agencies. More interestingly, drought statistics were used to request further federal assistance for those economic sectors most severely impacted, identified during the previous two years of drought. Figure 2 illustrates the state's reliance on information collected from federal agencies in support of the drought planning process defined by the Governor's Task Force.

Note that planning activities identified in the state's drought plan merely establish baseline information about water use and drought impacts. However, since priorities about water use are not documented in other water management policy, the task of identifying drought impacts is arbitrary to data provided by other institutions. Information identified in support of listed drought planning activities does not necessarily correspond to the purpose of that process. The absence of a comprehensive water management planning process made implementing drought planning implausible, even though water user groups most impacted were able to receive financial assistance. This assistance was received, not in response to planning activities in the context of a comprehensive analysis of water uses and priorities for a range of sectors and at differing scales, but as economic disaster was already immanent.

Reallocation of water use in the ACF River Basin.

Conflict over future water allocations in the ACF River Basin have become a central concern in local and state-wide planning efforts among the three states of Alabama, Georgia, and Florida. The current controversy over water use along the Apalachicola system has emerged at the conclusion of the ten-year period of severe drought in the southeast. While drought had already begun to produce more interest in establishing formal water management guidelines at the state level, Alabama's drought planning experience calls into question its readiness to develop its role in comprehensive river basin planning.

The comprehensive study of existing water uses and priorities among the three states devotes two scopes of work to developing comprehensive river basin planning for the ACF: The Basinwide Management Scope of Work and the Institutional Framework and Coordination Mechanism Scope of Work. In both, the three states are asked to document a future role in participating in an interstate planning process

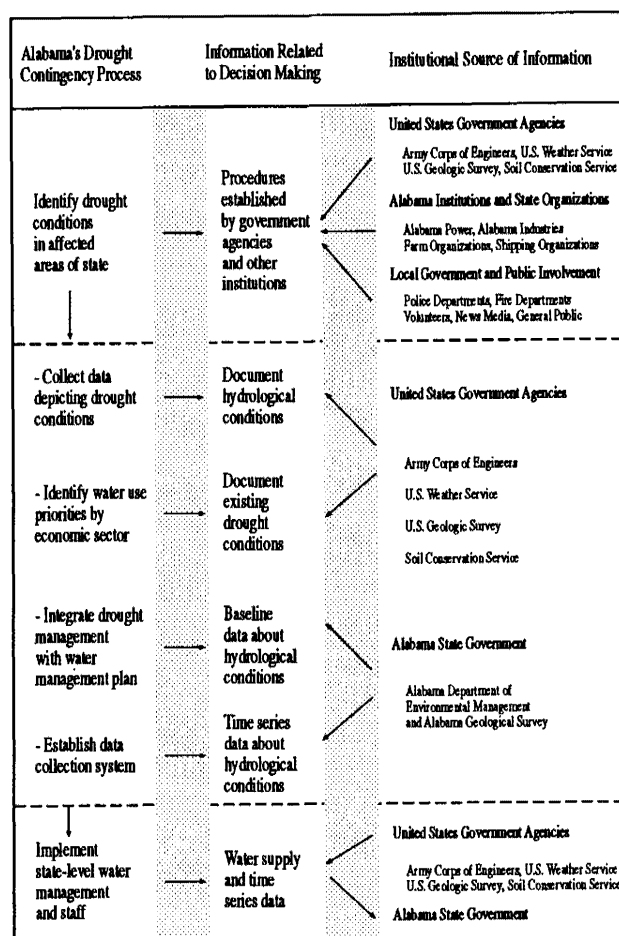


Figure 2. Drought Contingency Decision Making in Alabama - State Policy Making Perspective

based on their existing water use priorities, management activities and policies (The Comprehensive Study Technical Coordination Study Group 1992). The tasks identified for building an interstate planning mechanism are consistent with those presented for the planner in Figure 1. In combination, these scopes request an inventory of existing planning activities, alternative basinwide planning strategies, state-level policy initiatives, and current status of intergovernmental planning activities within states.

For Alabama, the problem of drought contingency recurs in its participation in the comprehensive study. Because of a lack of pre-existing state policy, basic information about water use priorities at differing scales and through various sectors has not been linked to state or local water management or planning objectives. When called upon to document what those objectives are, as the planning scopes of work require, Alabama once again must rely on other established institutional frameworks in order to assess its needs and policy priorities. Moreover, because the state must rely on other institutional frameworks in order to participate in this dialog, informal water management processes elude planners charged to identify them.

CONCLUSIONS

Given the different experiences with intergovernmental planning among the three states, it is difficult to imagine that Alabama will be able to participate in the comprehensive study on an equal basis with Georgia and Florida. In Alabama, institutional planning is not well coordinated vertically through jurisdictions with state and local planning. This means that Alabama's participation in developing a framework for comprehensive river basin planning precludes assessment of whether or not its own constituents will accept the results of this initiative. There is simply no mechanism in place at the state and local level to gauge which objectives, alternatives, participatory modes, or water management strategies are acceptable to Alabama water users, sectors, and locales.

In contrast, Georgia and Florida enter this process with greater experience in their collective planning activities, which include both growth management and water resources planning. Moreover, in both Georgia and Florida, state and local policy specify how intergovernmental coordination of planning is to proceed. The conflicts likely to emerge in addressing the future of intergovernmental river basin planning for the ACF are sure to include well documented objectives and priorities for Georgia and Florida, supported by information through sectors and locales; coordinated with existing planning activities. Alabama's continued reliance on external expertise and institutional support ensures that only those state and local objectives which are consistent with interstate and federal policy will reflect actual water uses and needs.

LITERATURE CITED

- Alabama Governor's Drought Task Force. 1989. *Committee Tasks and Water Management Contingency Planning Background Reports*.
- Bauman, D. 1990. Introduction to water supply and conservation planning. *Water Resources Update* 83:9-18.
- Bollens, S. 1992. State growth management: Intergovernmental frameworks and policy objectives. *Journal of the American Planning Association* 58:454-466.
- Friedmann, J. 1989. Planning, politics, and the environment. *Journal of the American Planning Association* 55:334-338.
- Gale, D. E. 1992. Eight state-sponsored growth management programs: A comparative analysis. *Journal of the American Planning Association* 58:425-439.
- Innes, J. E. 1992. Group processes and the social construction of growth management: Florida, Vermont, and New Jersey. *Journal of the American Planning Association* 58:440-452.
- The Comprehensive Study Technical Coordination Group. 1992. *Comprehensive Study Alabama-Coosa-Tallapoosa and Apalachicola-Chattahoochee-Flint River Basins: Volume 1-Plan of Study Main Report*. Alabama, Florida, Georgia and the U.S. Army Corps of Engineers.
- Feldman, D. L. 1991. *Water resources management: In search of an environmental ethic*. Baltimore: The Johns Hopkins University Press.
- Harris, B. 1988. The emerging unity of science and humanism in planning. *Journal of the American Planning Association* 54:521-528.
- Major, D. and R. Lenton. 1979. *Applied water resource systems planning*. Englewood Cliffs: Prentice Hall.
- Masucci, M. 1987. *A simulation of regional planning decision making processes*. Worcester, MA: Clark University Doctoral Dissertation in Geography.
- Moore, T. 1988. Planning without preliminaries. *Journal of the American Planning Association* 54:525-528.
- Riebsame, W. 1987. Human response to climate change: The role of decisionmaker perception. In Meo, M. (ed); *Proceedings of the Symposium on Climate Change in the United States: Future Impacts and Present Policy Issues*. Oklahoma 494-502.
- Stiftel, B. 1990. On retaining our best and brightest. *Journal of the American Planning Association* 56:67-68.
- Truax, D. D. 1989. *Evaluation and development of water resource management strategies for drought/emergency conditions*. Water Resources Research Institute, Mississippi State University; prepared for the U.S. Department of the Interior, Technical Completion Report.
- U.S. Army Corps of Engineers. 1991. *The national study of water management during drought: Report on the first year of the study*. Directorate of Civil Works, Policy and Planning Division Headquarters.
- . 1986. *The future of intergovernmental relations and the U.S. Army Corps of Engineers*. Institute for Water Resources.
- . 1988. *Lessons learned from the 1986 drought*. Institute for Water Resources, Water Resources Support Center.